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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/364,256	07/30/99	SINES	E 79,955

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EXAMINER	
PEREZ,G	
ART UNIT	**PAPER NUMBER**
2834	

DATE MAILED: 05/26/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/364,256	SINES, EDDIE	
	Examiner	Art Unit	
	Guillermo Perez	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

1)☒ Responsive to communication(s) filed on *24 March 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 July 1999* is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☐ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "14" and "10" have both been used to designate the transformer windings. Correction is required.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "18" has been used to designate both the thermocooler in figure 4 and the windings in figure 1. Correction is required.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "10" has been used to designate both the transformer in figure 1 and the windings in figure 4. Correction is required.

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: figure 1 does not show the reference number 16. Correction is required.

Claim Objections

Claim 13 is objected to because of the following informalities: see line 3, after "casing" the word "if" should read ---of---. Appropriate correction is required.

Claim 16 is objected to because of the following informalities: see line 8, after "physical" a word like ---contact--- is needed for clarity. Appropriate correction is required.

Claim 26 has been renumbered as claim 17 to place it in accordance to rule 1.26.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jarczynski (U. S. Pat. No. 5, 091, 666) in view of Liebe et al. (U. S. Pat. No. 3, 965, 378).

Jarczynski discloses an electric motor (figure 2) comprising: one or more laminations of a metallic material (34) forming an outer casing of the electric motor;

one or more circular thermally conductive disks (36) placed between pre-selected layers of the motor laminations, said conductive disks conducting heat generated by an electrical current flowing within the motor to an edge of the conductive disk outside of the area covered by the motor laminations;

an electrically conductive material (42) wound in a plurality of layers within the laminations so as to form an electric field that drives an armature when an electrical current is applied; and

one or more thermocoolers (26) adjacent to and touching the outer casing of the motor to conduct heat from the metallic laminations forming the outer casing of the motor. However, Jarczynski does not disclose thermally conductive strips placed between pre-selected layers of the electrically conductive material, said thermally conductive strip extending outside of the area covered by the electrically conductive material.

Liebe et al. disclose thermally conductive strips (5) placed between pre-selected layers of the electrically conductive material (2), said thermally conductive strip extending outside (4) of the area covered by the electrically conductive material; and

means for conducting heat at the end of the conductive strips (column 2, lines 37 to 42), for the purpose of improving heat transfer conditions in a coil pole.

It would have been obvious at the time the invention was made to modify the electric motor of Jarczynski and provide it with thermally conductive strips placed between pre-selected layers of the electrically conductive material, said thermally conductive strip extending outside of the area covered by the electrically conductive material; and means for conducting heat at the end of the conductive strips as disclosed by Liebe et al., for the purpose of improving heat transfer conditions in a coil pole.

2. Claims 14 to 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liebe et al. in view of Herron (U. S. Pat. No. 3, 671, 787).

Liebe et al. disclose a method for cooling electrical devices having layers of electrically conductive material (2) wound on a core comprised of the following steps:

placing a thermally conductive material (5 and 4), having a first and a second end, capable of conducting heat from between pre-selected layer of the electrically conductive material said first and second end of the thermally conductive material extending outside of the area covered by the electrically conducting material (4);

and conducting the heat from the first and second ends of the thermally conductive material; and

removing heat from the thermally conductive strips. However, Liebe et al. do not disclose the step of placing a thermally conductive strip having a first and second end between predetermined laminations of the core, said first and second ends of the thermally conductive strip extending outside of the core.

Herron discloses the step of placing a thermally conductive strip (12) having a first and second end between predetermined laminations of the core, said first and second ends of the thermally conductive strip extending outside of the core (figures 1 and 4), for the purpose of improving cooling efficiency in the motor core.

It would have been obvious at the time the invention was made to modify the method for cooling electric devices of Liebe et al. and provide it with the step of placing a thermally conductive strip having a first and second end between predetermined laminations of the core, said first and second ends of the thermally conductive strip extending outside of the core as disclosed by Herron, for the purpose of improving cooling efficiency in the motor core.

Response to Arguments

Applicant's arguments with respect to claims 13 to 17 have been considered but are moot in view of the new ground(s) of rejection.

The examiner reconsidered the rejection in view of Davis (U. S. Pat. No. 5, 949, 170) and withdrew it because Davis does not disclose that the thermally conductive strips extend outside of the area covered by the electrically conductive material. The examiner still considers that the strips (73) of Davis are used to remove heat from the windings as described on column 6, lines 27 to 39 and column 7, lines 20 to 25.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. J. P. Glass (U. S. Pat. No. 3, 123, 747) discloses a stator core with non-magnetic laminations between magnetic laminations to reduce the use of high-magnetic-permeability metal.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

GP
May 24, 2000

NICK PONOMARENKO
PRIMARY EXAMINER